

***NATIONAL WEATHER SERVICE WESTERN REGION SUPPLEMENT 11-2003
TO INSTRUCTION 10-515
JANUARY 20, 2005***

***Operations and Services
Public Weather Services, NWSPD 10-5
WFO Non-Precipitation Weather Products Specification, NWSI 10-515
WESTERN REGION NON-PRECIPITATION WEATHER PRODUCTS***

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SUMMARY OF REVISIONS: This supplement supersedes Western Region Supplement 11-2003 to Instruction 10-515, dated July 31, 2003. Revisions include the addition of Hard Freeze Warnings where appropriate; a substantial rewrite of standardized headline rules in section 4.2; new examples; and removal of most of the verification section which will become separate documentation.

Signed

01/06/05

Vickie Nadolski

Date

Director, Western Region

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1. Description. Hazardous weather not directly involving precipitation, such as high wind or dense fog, is addressed by Western Region (WR) Weather Forecast Offices (WFOs) with non-precipitation weather outlooks, watches, warnings, and advisories. They are issued when conditions are expected to meet established criteria that pose a threat to people in the County Warning and Forecast Area (CWFA). Weather that does not meet hazardous criteria should be addressed in products such as the Short Term Forecast (AWIPS header NOW) or Special Weather Statement (AWIPS header SPS).

1.1 Forecaster Judgement: Written instructions cannot address every operational situation. All WFO personnel must exercise initiative and professional judgement to minimize risk to public safety and property in situations not explicitly covered by written instructions. Personnel must balance safety and needs of customers against frequency of warnings and possible constraint of travel and commerce. Protection of life and property will take precedence in these decision making processes. As such, criteria for advisories and warnings are considered guidance only, not strict thresholds. Forecasters may issue warnings based upon lower criteria if the event in question poses a significant threat to life due to timing or other circumstances.

2. Products. Outlooks for potentially hazardous non-precipitation weather will be included in the daily Hazardous Weather Outlook (AWIPS header HWO). Outlooks can also be issued as separate Special Weather Statements (SPS) as stated in 10-515 section 3.2, but these statements should be reserved for major storms, big changes to the current weather pattern, and other circumstances in which the forecaster believes customers should receive heightened awareness of the upcoming storm.

Watches, warnings, and advisories for non-precipitation weather hazards are issued under the category NPW, and are referenced in the appropriate section of the HWO. Each of these products use the modernized site ID for the appropriate WFO in the AWIPS header. See <http://ww2.wrh.noaa.gov/public/WMOheaders/warningprods.htm> for a full list of WMO and AWIPS Ids for WR non-precipitation weather products.

The MND header for all non-precipitation (NPW) products will not be “Non-Precipitation Watch/Warning/Advisory”, but will simply be “Urgent - Weather Message” as per 10-515.

2.1 Product Types and Appropriate Lead Times.

- a. Outlooks. Outlooks are issued in the HWO for potential hazards which may develop in the Day 3-7 period of the forecast. An SPS may be issued for these events if required by local customers under the MND header “Special Weather Statement”. It is appropriate to include non-warning/advisory conditions in the HWO if those conditions could pose a significant threat to the public if they are not prepared.
- b. Watches. Watches are issued when the risk of a hazardous weather event is significant in the 12 to 48 hour time frame, but occurrence, location, severity, and/or timing is uncertain. Watches may be issued beyond 48 hours for large synoptic scale storms, but care must be used so that we do not reduce the effectiveness of watches by issuing too many false alarms.
- c. Warnings. Warnings are issued when an event meeting established criteria is occurring, imminent, or has a significant probability of occurrence within 36 hours. Warnings may be issued beyond 36 hours for large synoptic scale storms, but care must be used so that we do not reduce the effectiveness of warnings by issuing too many false alarms.

- d. Advisories. Advisories are issued for certain events that have a significant probability of occurrence in the first 36 hours. These events are defined as non life-threatening by themselves, but they could become life-threatening if caution is not exercised.

2.2 Relationship to Winter Weather Statements (WSW). High wind watches/warnings and wind advisories will not be issued within WSWs. Issue all high wind watches/warnings/advisories as their own NPW product. Winter weather warnings/advisories will not be combined with non-precipitation hazards in the NPW product at any time.

2.2.1 Combined Wind and Snow Events. If strong winds will be in the same zones as winter precipitation that meets criteria, issue Blizzard/Winter Storm Warnings or Winter Weather Advisories rather than separate WSWs and NPWs.

2.3 Relationship to Short Term Forecast (NOW). Both hazardous and non-hazardous non-precipitation weather may be addressed in the Short Term Forecast (NOW). When locally-established criteria for non-precipitation weather are met, NOWs should be issued to relay information for approximately the one to three hour time frame. When warnings or advisories are in effect, the appropriate headlines should be included in the NOW. NOWs should contain detailed information on timing and location (i.e., use “wind will be strongest near Cajon Pass until noon” rather than “gusty winds at times early today”).

2.4 Relationship to Severe Thunderstorm Warning (SVR). There will be times when high wind events are both convective and "gradient" in nature, such as convective cells embedded in strong gradient wind flows. In these instances forecaster discretion and sound judgement will determine which type of warning is the most appropriate; however, when damaging wind can be directly related to convective cells, a Severe Thunderstorm Warning is most appropriate.

2.5 Air Stagnation Advisories. WR WFOs that have an air stagnation advisory program in cooperation with state and local air quality officials will issue the products under the AWIPS header ASA. Air stagnation advisories in WR should not be issued under the NPW category. Air stagnation advisories should address only meteorological conditions that cause air stagnation, and should not be used to relay information on pollution levels.

3. Criteria. Criteria for non-precipitation watches/warnings/advisories will consider climatology and customer needs, and reflect a balance between public safety and too many false alarms. Customers, emergency management officials, concerned federal, state and local government agencies, the media, Western Region Headquarters (MSD), and all other appropriate groups must be made aware of WFO's criteria for watches, warnings, and advisories. Awareness must be maintained with these local customers and partners through regular outreach, and those groups with the most at stake should have input into the process of choosing criteria changes as it affects their operations.

The State Liaison Office MIC (SLOMIC) will coordinate all criteria with MICs of WFOs within his/her state to ensure consistency for climatologically similar areas, keeping in mind those separated by state or county borders. To aid the coordination of warning and advisory criteria in

adjacent CWAs, WFOs will post their watch/warning/advisory criteria in their SDM on the MSD intranet site <http://sdm.wrh.noaa.gov>.

3.1 High Wind.

3.1.1 High Wind Warnings. The criteria for high wind warnings in the Western Region is **sustained winds of 40 mph or higher and/or gusts of 58 mph or greater**, unless otherwise defined below. Forecaster judgement is crucial in deciding whether or not to issue high wind warnings. The forecaster must take into account the affect of the expected high wind (how much damage may occur), the areal extent of the wind, and the length of time the wind will occur, when making the decision. The criteria set herein is guidance; the overriding factor in the warning decision is the affect to life and property.

If a single high wind report occurs when no warning is in effect, and it is not expected to continue, the issuance of a high wind warning is not required and a special weather statement (SPS) or short term forecast (NOW) should be issued.

Exceptions to the regional high wind warning criteria for specific areas are:

- a. **Mountain Areas.** Since mountain winds frequently exceed the criteria above, especially over ridges or exposed peaks, the criteria for high wind warnings in the mountains may be increased. In most areas, mountain high wind warning criteria should be sustained winds of 50 mph or higher and/or gusts to 75 mph or greater over areas affecting the populace, e.g. ski resorts, roads through mountain passes, etc. Other criteria can be defined based on local need. The forecaster's best judgement, along with these recommended criteria, will provide the final determination of whether or not a high wind warning or watch is issued. The lower vertical limit of "mountains" will be described by local definitions established by the SLOMIC/MIC, but should be understood by users and the media, and will be clearly documented in the SDM.
- b. **Upper Yellowstone Valley, Montana.** In the vicinity of Livingston to Big Timber: High wind in this valley is defined as sustained 50 mph or higher and/or gusts to 75 mph or greater without regard to duration or areal extent.
- c. **Columbia River Gorge, Washington/Oregon.** From Cascade Locks, Oregon, to Troutdale, Oregon, including the hills five (5) miles either side of the Gorge: High wind in this area is defined as sustained 50 mph or higher and/or gusts to 75 mph or greater without regard to duration or areal extent.

3.1.2 Wind Advisories. In Western Region, Wind Advisories are optional and criteria are defined locally.

3.2 Excessive Heat. While basic heat index criteria may be used as shown in the following sections, WFOs are encouraged to work with community health organizations, universities, and other research organizations to utilize heat warning and advisory criteria based on the health

impact to people within their CWFA. Systems have been established in cities throughout the world that base heat warnings and advisories on airmass type, time of year, number of consecutive days of heat, etc. For areas where this type of research has been done, the heat index criteria will be locally determined and is not subject to the rules of thumb below.

3.2.1 Excessive Heat Warnings. Basic WR excessive heat warning criteria is: **heat index (HI) at least 115 for 3 hours or more, with minimum nighttime heat index at or above 80.** In climatologically hotter areas, local offices may set different criteria and will coordinate it with their SLOMIC and post their criteria on the WR SDM intranet site. Notable exceptions to the above criteria are listed below.

- a. Extreme Southern Nevada (Lake Mead/Las Vegas): >125 Day / 90 Night
- b. Southern California Valleys and Deserts
 - Low Deserts (Imperial Valley): >120 Day / 90 Night
 - High Deserts (Mojave Desert): >115 Day / 90 Night
- c. Arizona
 - Below 1000 Ft (Yuma Desert): >125 Day / 90 Night
 - 1000-2500 Ft (Phoenix): >120 Day / 90 Night
 - 2501-4000 Ft (Tucson): >115 Day / 90 Night

3.2.2 Heat Advisories. Heat Advisories are optional and are based on locally established criteria.

3.3 Excessive Cold.

3.3.1 Hard Freeze Warnings. In normally warm desert areas, cold temperatures for only a few hours can cause considerable damage to pipes and plants. To distinguish these types of situations from “normal” Freeze Warnings, WR WFOs may issue Hard Freeze Warnings when specific criteria have been established based on local research. Hard Freeze Warnings will follow the format for Freeze Warnings as specified in 10-515.

3.4 Non-Precipitation Watches. Non-precipitation weather watch criteria are the same as warning criteria. However, when an advisory is issued following a watch, do not use the words “downgraded” to describe the advisory.

4. Product Format. NPWs are segmented products. Format details are well described in Instruction 10-515.

4.1 Overview. NPWs may include an optional overview section before the segments. The overview contains a general descriptive headline and synopsis of the event. It is placed before the segments, without UGC. Where prior state/local agreements require, they may be placed at the end of the NPW product.

4.2 Headlines. Until the Valid Time and Event Code (VTEC) is implemented in non-precipitation weather products, headlines will serve as a means of determining the appropriate dissemination of non-precipitation weather information for our national partners. Because of

this, headline standardization is extremely important and policy must be followed at all times. The basic rules for headline standardization are as follows:

- a. The *hazard type, or product name*, must be one of the listed products on 10-515, Sections 4.2.2.1, 5.2.2.1, or 6.2.2.1.
- b. The *action code* (IN EFFECT, EXTENDED, IS CANCELLED, etc.) will match those shown in 10-515, Sections 4.3.4.2, 5.3.4.2, 6.3.4.2.
 - The phrase “HAS BEEN ISSUED” is not used; use “IN EFFECT”.
 - The phrase “UPGRADED” is not used; instead, use a single headline stating the new warning is IN EFFECT.
 - The phrase “DOWNGRADED” is not used. Instead, two headlines are used; one stating the first product has been CANCELLED, and a second headline stating the new product is IN EFFECT.
- c. The *time phrases* must match those shown in 10-515, Appendix C. In summary, Warnings and Advisories must use a specific beginning and ending time and day (e.g., ...FROM 6 AM THIS MORNING TO 9 AM MST TUESDAY MORNING...); Watches must use a general time and day phrase (e.g., ...FROM SUNDAY MORNING THROUGH MONDAY AFTERNOON...).
- d. *Additional Information.* WR WFOs are allowed a few options within the national policy (10-515, Section 5.3.4.2) in order to meet local customer requirements.
 - i. Elevation: WR WFOs may include elevation in the headline as necessary. If used, elevation information will be included at the end of the headline. (e.g., “...HIGH WIND WARNING IN EFFECT UNTIL 6 AM TUESDAY ABOVE 7000 FEET...”)
 - ii. Area: To meet local customer requirements, an areal descriptive term may be included as long as it is placed at the end of the headline. (e.g., “...WIND ADVISORY REMAINS IN EFFECT UNTIL 10 PM FRIDAY FOR CANYONS AND PASSES...”)

4.2.1 Expiration Statements. Though not specifically addressed in 10-515, WR WFOs are encouraged to issue a final statement when a warning or advisory has reached its normal expiration time and has not been previously canceled. A short statement should be issued near the expiration time with the headline “THE _____ WARNING/ADVISORY HAS EXPIRED”, or “THE _____ WARNING/ADVISORY WILL EXPIRE AT _____.” This provides customers with a final notification that the event is indeed over.

4.3 Segment Content. Within each segment the free text description of the event will be concise and restricted to addressing the specifics of the weather that is expected. Where appropriate, include mention of specific highways or other geographic locations where the public would be especially vulnerable. A definition of watch/warning must be included as shown in 10-

515 sections 4.3.4.2.b and 5.3.4.2.b if the event has not yet begun. Attribution statements (THE NATIONAL WEATHER SERVICE IN [WFO LOCATION] HAS ISSUED A...) are required for the first issuance of a particular watch/warning/advisory; see 10-515, Sections 4.3.4.2.b.1, 5.3.4.2.b.1 and 6.3.4.2.b.1.

4.3.1 Call-to-Action Statements. Concise call-to-action statements should be included in each segment if the statements relay extremely urgent messages, such as potentially life-saving actions. Other less urgent call-to-action statements may be included in one of three ways: either separated from other content within a segment by using the && separator; included as part of the overview; or grouped together after the \$\$ ending the final segment of the product. WFOs must remember that call-to-action statements not included in the segments will not be received by customers who program their systems to only receive their local segments.

5. Verification. Verification statistics for non-precipitation events will be kept by each WFO. Verification should be performed in a timely manner during/after each warning/advisory event. Maintaining a good working relationship with state and local Departments of Transportation/ Highways, Law Enforcement Officials, and other groups will help WFOs gather snowfall data during and after events. WFOs are encouraged to contact these reliable sources during and shortly after events, in addition to receiving reports from trained spotters and dependable automated equipment. Subjective judgement, common sense, and honesty will be the guiding factors in determining both the occurrence of winter storm events and lead times. The final determination resides with the WFO MIC as to how a storm verified or whether an event occurred

Verification statistics should be entered into the appropriate regional database as required in other WR Supplements and policies.

APPENDIX A

See also the examples contained in Appendix A of NWSI 10-515.

Example 1:

WWUS76 KLOX 171326
NPWLOX

URGENT - WEATHER MESSAGE
NATIONAL WEATHER SERVICE LOS ANGELES/OXNARD CA
530 AM PST FRI DEC 17 2004

...DAMAGING SANTA ANA WINDS WILL AFFECT PARTS OF SOUTHWESTERN CALIFORNIA THROUGH EARLY FRIDAY AFTERNOON...

.STRONG HIGH PRESSURE WAS CENTERED OVER NEVADA AND UTAH THIS MORNING. THIS COMBINED WITH A STRONG NORTHEAST FLOW ALOFT WILL BRING VERY STRONG AND GUSTY NORTHEAST WINDS TO THE MOUNTAINS AND VALLEYS OF VENTURA AND LOS ANGELES COUNTIES THROUGH THE EARLY AFTERNOON. GUSTY WINDS WILL ALSO AFFECT COASTAL SECTIONS OF VENTURA AND LOS ANGELES COUNTIES. THE STRONGEST WINDS WILL OCCUR THROUGH AND BELOW NORTHEAST TO SOUTHWEST ORIENTED PASSES AND CANYONS. WINDS WILL DIMINISH DURING THE AFTERNOON.

CAZ047-171630-
LOS ANGELES COUNTY VALLEYS-
530 AM PST FRO DEC 17 2004

...HIGH WIND WARNING REMAINS IN EFFECT UNTIL 230 PM PST TODAY...

AREAS OF NORTHEAST WINDS 35 TO 45 MPH WITH LOCAL GUSTS TO 60 MPH WILL AFFECT THE WARNING AREA THROUGH EARLY THIS AFTERNOON. WINDS WILL DIMINISH DURING THE AFTERNOON.

VERY STRONG GUSTY WINDS WILL MAKE TRAVEL DIFFICULT...ESPECIALLY IF YOU ARE DRIVING A HIGH PROFILE VEHICLE. MOTORISTS SHOULD USE EXTREME CAUTION. PEOPLE AT HOME SHOULD SECURE ANY LOOSE OUTDOOR ITEMS SUCH AS GARBAGE CANS AND LAWN FURNITURE. STAY ALERT FOR THE POSSIBILITY OF FALLING TREE LIMBS AND DOWNED POWER LINES.

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CAZ053>054-171630-

LOS ANGELES COUNTY MOUNTAINS EXCLUDING THE SANTA MONICA RANGE-
VENTURA COUNTY MOUNTAINS-
503 AM PST FRI DEC 17 2004

...HIGH WIND WARNING REMAINS IN EFFECT UNTIL 230 PM PST TODAY...

AREAS OF NORTHEAST WINDS 40 TO 50 MPH WITH LOCAL GUSTS OVER 70 MPH
THROUGH PASSES AND CANYONS WILL AFFECT THE WARNING AREA THROUGH
EARLY THIS AFTERNOON. WINDS WILL DIMINISH DURING THE AFTERNOON.

VERY STRONG GUSTY WINDS WILL MAKE TRAVEL DIFFICULT...ESPECIALLY IF
YOU ARE DRIVING A HIGH PROFILE VEHICLE. MOTORISTS SHOULD USE
EXTREME CAUTION. PEOPLE AT HOME SHOULD SECURE ANY LOOSE OUTDOOR
ITEMS SUCH AS GARBAGE CANS AND LAWN FURNITURE. STAY ALERT FOR THE
POSSIBILITY OF FALLING TREE LIMBS AND DOWNED POWER LINES.

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CAZ041-171630-

LOS ANGELES COUNTY COAST INCLUDING DOWNTOWN LOS ANGELES-
530 AM PST FRI DEC 17 2004

...WIND ADVISORY REMAINS IN EFFECT UNTIL 230 PM PST TODAY...

AREAS OF NORTHEAST WINDS 25 TO 35 MPH WITH LOCAL GUSTS TO 50 MPH
BELOW PASSES AND CANYONS CAN BE EXPECTED IN THE ADVISORY AREA
THROUGH EARLY THIS AFTERNOON. THE STRONG WINDS WILL MAINLY AFFECT
THE AREA FROM THE HOLLYWOOD HILLS TO THE COAST ADJACENT TO THE
SANTA MONICA MOUNTAINS INCLUDING THE MALIBU AREA.

WITHOUT EXTRA PRECAUTIONS...WINDS MAY CAUSE MINOR PROPERTY
DAMAGE. ALL MOTORISTS...ESPECIALLY THOSE WITH HIGH PROFILE VEHICLES
AND VEHICLES TOWING TRAILERS SHOULD USE CAUTION WHILE TRAVELING IN
THE ADVISORY AREA. BE PREPARED FOR SUDDEN STRONG CROSS WINDS.

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Example 2:

WWUS76 KSTO 171200
NPWSTO

URGENT - WEATHER MESSAGE
NATIONAL WEATHER SERVICE SACRAMENTO CA
355 AM PST FRI DEC 17 2004

.LIGHT WINDS AND SOME HIGH CLOUDS OVER THE VALLEY AND DELTA
ALLOWED DENSE FOG TO FORM OVER A LARGE PORTION OF THE AREA LAST
EVENING. THIS DENSE FOG IS EXPECTED TO REMAIN OVER THE VALLEY AND
DELTA THROUGH THE MORNING COMMUTE...WITH GRADUAL IMPROVEMENT
EXPECTED LATER THIS MORNING.

A DENSE FOG ADVISORY IS ISSUED WHEN DENSE FOG WILL SUBSTANTIALLY
REDUCE VISIBILITIES...RESULTING IN HAZARDOUS DRIVING CONDITIONS.
MOTORISTS ARE ADVISED TO USE CAUTION AND SLOW DOWN...AS OBJECTS ON
AND NEAR ROADWAYS WILL BE SEEN ONLY AT CLOSE RANGE.

CAZ015>017-171900-
CENTRAL SACRAMENTO VALLEY-NORTHERN SACRAMENTO VALLEY-
SOUTHERN SACRAMENTO VALLEY-
355 AM PST FRI DEC 17 2004

...DENSE FOG ADVISORY REMAINS IN EFFECT UNTIL 11 AM PST THIS MORNING...

WIDESPREAD DENSE FOG WILL CONTINUE THROUGH THE MORNING COMMUTE
HOURS FOR THE SACRAMENTO VALLEY...WITH VISIBILITY NEAR ZERO IN SOME
AREAS. PLEASE ALLOW EXTRA TIME TO REACH YOUR DESTINATION THIS
MORNING. MOTORIST SHOULD SLOW DOWN AND ALLOW EXTRA DISTANCE
BETWEEN VEHICLES. BE AWARE THAT THE LOCAL VISIBILITY MAY CHANGE
VERY RAPIDLY IN A SHORT DISTANCE. CONDITIONS WILL IMPROVE SLOWLY BY
LATE MORNING.

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Example 3:

WWUS75 KBOI 171630
NPWBOI

URGENT - WEATHER MESSAGE
NATIONAL WEATHER SERVICE BOISE ID
930 AM MST FRI DEC 17 2004

.HIGH PRESSURE WILL ALLOW A TEMPERATURE INVERSION TO CONTINUE IN
VALLEY LOCATIONS BUT DAYTIME VISIBILITIES HAVE IMPROVED.

IDZ012-014-171700-
LOWER TREASURE VALLEY-UPPER TREASURE VALLEY-
930 AM MST FRI DEC 17 2004

...DENSE FOG ADVISORY HAS EXPIRED...

AREAS OF MIST AND LOW CLOUDS WILL CONTINUE IN THE TREASURE VALLEY
THROUGH THIS AFTERNOON. HOWEVER...VISIBILITIES HAVE IMPROVED TO
GREATER THAN TWO MILES IN MOST AREAS AND THE DENSE FOR ADVISORY
HAS BEEN ALLOWED TO EXPIRE. DENSE FOG MAY RETURN TO SOME VALLEY
LOCATIONS AGAIN AFTER MIDNIGHT.

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